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Impact of the regional business environment on the development of small and medium-sized enterprises in southern Poland

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Introduction

A good starting point to a discussion on regional factors as determinants for business success can be Tobler's statement "Everything is related to everything else, but near things are more related than distant things" (1970, p. 234). It is a paradigm, that some regions have a more entrepreneurial attitude than others. The Global Entrepreneurship Monitor (GEM) finds considerable differences in entrepreneurial attitudes between countries (Acs et al. 2004). German scientists found that these attitudes vary also in regions within one country (Bergman, Japsen & Tamásy 2002). Studies of different regions in reference to enterprise start-up's can explain that differences are due to a large extent to the differences in socio-demographic variables and the regional industry structure. Entrepreneurial attitudes are to some extent dependent on the region of origin, but a number of questions concerning the regional influence still remain unresolved in a theoretical and empirical way (Bergman 2002), and this was the inspiration for conducting this research.

Although there have been some research in this field so far, they are not complete and comprehensive. It is obvious that studying entrepreneurial activities of a local community separately from the opportunities offered by the environment is impossible (Johannisson 1987). Sternberg and Arndt (2000), while studying 10 different regions within Europe, proved that a particular region and its regional business environment can help to make better use of firm's existing. Similarly, Langendijk (2001), Prirrmann (1994) as well as Oughton, Landabaso and Morgan (2002) confirmed that regional factors influence innovative behaviour of firms. Bergman (2002) proved dependency between start-up rates and both differences in socio-demographic variables as well as the regional industry structure in ten different German regions. Frenkel's (2001) own empirical research conducted in Israel certified that the

decision about localization choice depends mostly on regional factors. The Regional Entrepreneurship Monitor (REM) found that local entrepreneurship intensity depends on existing in a region development opportunities, which create start-up friendly local environment as well as local entrepreneurship potential (Bergman, Japsen & Tamásy 2002). Although there is a shared assumption that entrepreneurial attitudes are determined by the region of origin, many questions concerning regional influence still remain unresolved theoretically and empirically.

The point of departure of this study is the assumption that there is correlation between regional factors and business success. The paper presents a regional business framework in southern Poland which affects small and medium-sized enterprises' development. The study tries to verify the impact of nine regional factors, which are: regional capital, regional initiatives, regional entrepreneurship infrastructure, regional business to business services, regional labour resources, regional infrastructure, regional mobility, regional technology and knowledge transfer and regional life standard. On the basis of these factors the aim of the study is to find out whether there is dependency between the regional factors and the success of firms, and if so, what kind of connection exists between the characteristics of the regional business environment factors and the level of small and medium-sized development in a given region (positive or negative impact).

Small business regional environment

Competitiveness of economic units, especially small and medium-sized enterprises (SME's), is co-created by the conditions lying in the closest business environment, both local and regional, therefore the understanding of proper sources of competitive advantage requires undertaking the analysis on a mezeoeconomic level. Thus delimitation and identification of regional factors, taxonomy of regional business environment as well as possibilities of optimization is very crucial for understanding the impact of regional environment on small business success, development and growth. Worldwide literature points out a number of factors, which impact development of small and medium-sized enterprises in qualitative and quantitative dimensions. The factors can be divided into three groups. The first one consists of characteristics and competences of a firm. Another very important group of factors depends on entrepreneurial potential of an owner or a manager. The last group is made up of environmental factors in macro-, mezo- and micro-dimension. During the last decade scholars

focused on regional environment conditions as business success factors (e.g. Reynolds 1999; Audretsch 2003; Hart 2003; Reynolds, Storey & Westhead 1994). Some scholars even pay special attention to regional factors (e.g. Hart 2003, p. 12; Audretsch & Fritsch 1996, p.140). In Porter's opinion particular regions compete in offering the most profitable business environment, in which the public and private sector play different, but related roles in creating the economic growth (Porter 2002b, p. 3). Suitable macroeconomic policy determines economic growth, but is not sufficient because economic growth and competitive conditions depends mainly on mezo-environment conditions. The critical factor of small business success and economic growth is the quality of regional environment (Porter 2002a, p. 22). Although scholars agree that the regional business environment plays an essential role in formation, survival, functioning and development of small and medium-sized enterprises, simultaneously there is the lack of a common identification and classification of regional factors. Nevertheless it is difficult, and sometimes impossible to differentiate between regional and supra-regional or national factors (Sternberg & Arndt 2000, pp. 3-7; Meyer-Krahmer & Grundrum 1995, p.177). Based on literature studies and a query search I suggest nine factors of regional business environment, which impact small business development:

- availability of capital and financial support (e.g. Porter 2001; Frenkel 2001; Bergman et al. 2002; Sfiligoj & Glas 2000; Sterberg & Litzenberg 2004, Malecki 1997),
- local self-government initiatives (e.g. Frenkel 2001; Bergman et al. 2002; Sterberg & Litzenberg 2004);
- entrepreneurship infrastructure (e.g. Bergman et al. 2002; Sfiligoj & Glas 2000; Kalinowski et al. 2005),
- availability and quality of business to business services (e.g. Porter 2001; Frenkel 2001; Bergman et al. 2002; Sfiligoj & Glas 2000; Kalinowski et al. 2005),
- availability of well-educated labour source (e.g. Porter 2001; Frenkel 2001; Bergman et al. 2002; Malecki 1997; Kalinowski et al. 2005),
- physical, transportation and telecommunication infrastructure (e.g. Porter 2001; Frenkel 2001; Bergman et al. 2002; Sterberg & Litzenberg 2004, Malecki 1997; Kalinowski et al. 2005),
- mobility of a local community (e.g. Bergman et al. 2002; Sterberg & Litzenberg 2004),
- knowledge and technology transfer (e.g. Porter 2001; Bergman et al. 2002; Sterberg & Litzenberg 2004, Malecki 1997),

- life standard of a local community (e.g. Porter 2001; Frenkel 2001; Kalinowski et al. 2005).

The accessibility of capital as well as financial support is the key conditioning factor for formation, survival and development of SME's, especially in the initial stage of development. Local authorities can use a wide variety of activities in favour of entrepreneurship. Regional policy should be focused on fostering entrepreneurship, but it is recommended not only for inducing new ideas, but also to deal with the efficiency of the local administration, which is very important for entrepreneurs (for example 'one-stop shopping'). Entrepreneurship infrastructure, consisting of non-commercial units specialized in activities for small business, is crucial for SME's, because they provide assistance with the different phases of development (especially in a start-up stage). Small and medium-sized enterprises need B2B services, especially legal, tax, market research, IT and strategic consulting, to develop. This factor is very important in a mezzo-analysis because firms offering such services are located in a region. Labour market factors (such as the accessibility of well-educated workers and work culture) depend more on regional than national level. Communication and telecommunication infrastructure (e.g. quality and accessibility of roads, railway connections and air traffic, access to Internet) play an essential role for small business functioning and development. Knowledge and technology transfer factors are very important, especially under globalization and knowledge-based economy circumstances. Regions can offer industry clusters, technology parks or innovation centres. These various support centres can help to commercialize the research and development (R&D) units' output in order to stimulate not only formation, but also growth of innovative firms. Social mobility, understood as readiness of a local community to actively participate in economic processes, which is shaped by regulative, normative and cognitive norms, determines entrepreneurial behaviours in a region. Living standards of a local community can stimulate demand conditions, which makes this factor very important in a mezzo-analysis. Regional conditions, especially efficient and effective utilization of such factors as locally diverse chances, development predispositions as well as cooperation between units are crucial development stimuli for micro, small and medium-sized enterprises.

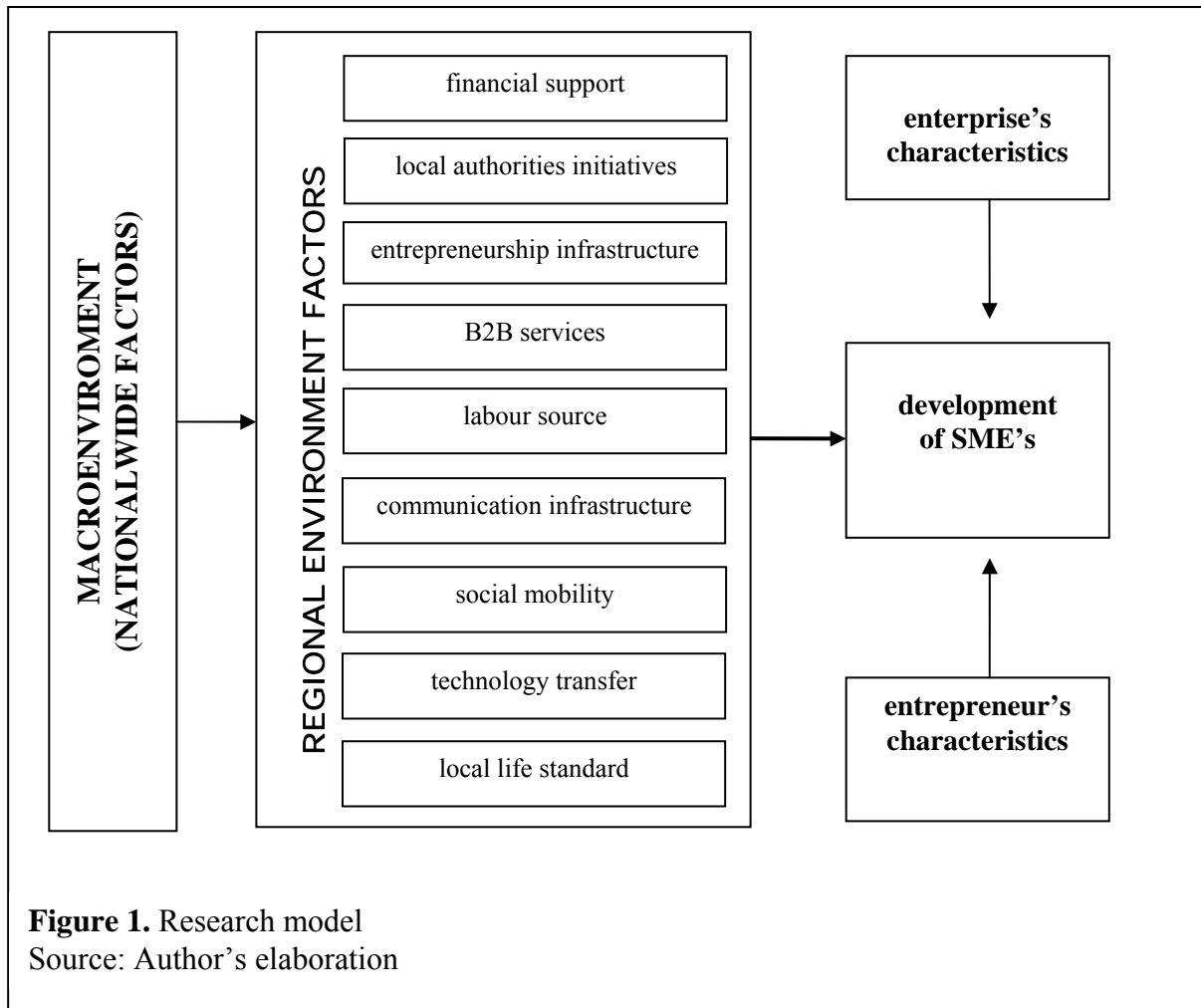
Research model

The research is quite interesting in Tamásy's (2002, p. 5) point of view because "there have been only a few such research so far" (e.g. Porter 2001; Frenkel 2001; Bergman et al. 2002; Sfiligoj & Glas 2000; Sterberg & Litzenberg 2004, Malecki 1997; Kalinowski et al. 2005). Porter's research on competitiveness and the role of regions is one of the most popular found in literature. His competitive advantage diamond is the most often cited and used conception of regional circumstances; nevertheless it represents the microeconomic more than the managerial point of view. Most authors researching regional framework focused on the economics of any territorial conceptions at microeconomics level of an analysis. As Bergman (2002, p. 19) stated "a number of questions concerning this regional influence still remain unresolved. (...) it furthermore needs to be analysed which factors might be most important to improve attitudes and views about entrepreneurship". Thus the author decided to investigate the regional factors from the organizational and managerial point of view, that is pursuing there impact on small and medium-sized enterprise development.

During the research two assumptions were made. As far as a business life circle of a firm is concerned the regional business environment influences SME development in different ways according to the needs of a firm on different stages of development. It allows us to assume that the regional environment impacts firms differently depending on the age of a firm. For small firms operating within a local market the regional circumstances play an important role. The second assumption allows us to limit the research only to the regional environment, apart from the general environment (macro-environment).

The empirical study was based on numerous questions, which thematically can be divided into three input groups (local business environment, the entrepreneurial attitude of the owner and the characteristics of the firm) as well as one output group (the development of a firm). The model was based on the first three factors mentioned above and then compared with the last one in order to verify the hypothesis (see figure 1). The first main variable - region environment ratio - is made up of nine general regional factors variables, each of which consists of sub-variables. The second main variable – features of enterprise - consists of 5 sub-variables (age, number of employees, type of activity, legal form, and range of activity). The third main variable – features of entrepreneur – is made up with 4 sub-variables (entrepreneurial attitude, sex, education level, and experience). Development ratio as the last main variable, consist of 12 sub-variables. The research was conducted in late-2004 within two groups: entrepreneurs and local authorities. The research was restricted to two provinces

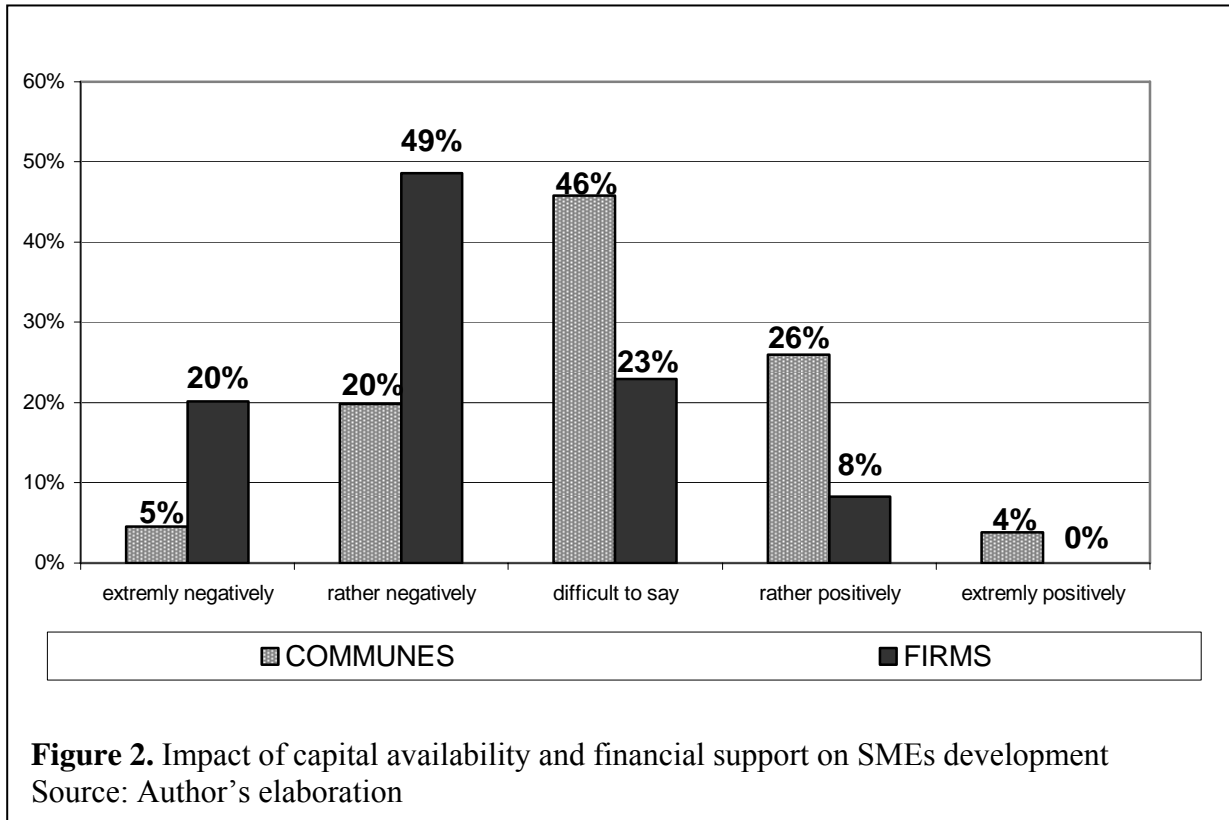
in southern Poland (Malopolska Voivodeship and Silesian Voivodeship). The first group consisted of 109 micro, small and medium-sized firms and the second group of 131 representatives of local communes. The questionnaire dedicated to entrepreneurs includes questions on all four variables, but the questionnaire dedicated to communes was limited only to questions on regional factors.



Empirical results

The majority of entrepreneurs evaluated the available capital and financial support in the region negatively, while most of the communes estimated it positively or did not evaluate it at all stating 'it is difficult to say' (figure 2). Nevertheless, there is a moderate correlation between the mentioned factor and the development of small and medium-sized enterprises. The Pearson correlation is 0,44 at significance level $p < 0,05$, which signifies that capital availability and financial support in the region impact the development of SME's. Any

significant differences between evaluation of young firms (up to 3,5 years) and older one's were not observed by the Chi-square Pearson test.



The percentage of firms which use entrepreneurship infrastructure was rather very low. Nevertheless, the firms, which use entrepreneurship infrastructure support, estimated the activities of these institutions high (60,8% of surveyed entrepreneurs estimated it as rather or extremely positively). The Pearson correlation is 0,55 at significance level $p < 0,05$, which means that there is a strong correlation between the availability and quality of entrepreneurship infrastructure and the development of SME's. In other words, institutions involved in the entrepreneurship infrastructure have a positive impact on the formation, development and growth of SME's. The significance of the rest of the correlations was not sufficient and did not prove the correlation between the other regional environment variables and development of small and medium-sized enterprises (table 1). However it would be a mistake to state that there is no correlation at all. However, some differences in evaluation of

entrepreneurs were observed. Firms operating on the market more than 3,5 years positively estimated the following factors:

- local authorities initiatives (Chi-square Pearson 9,313091, $p=0,00950$),
- communication and telecommunication infrastructure (Chi-square Pearson 6,196962, $p=0,04512$).

Table 1. Correlations between regional factors and development of SMEs

Variables	Pearson Correlation*	Significance**
financial support (V1)	0,44	$p < 0,05$
local authorities initiatives (V2)	-0,13	$p > 0,05$
entrepreneurship infrastructure (V3)	0,55	$p < 0,05$
business to business services (V4)	0,28	$p > 0,05$
availability of labour source (V5)	0,08	$p > 0,05$
communication infrastructure (V6)	0,22	$p > 0,05$
mobility of a local community (V7)	0,21	$p > 0,05$
knowledge and technology transfer (V8)	0,12	$p > 0,05$
local life standard (V9)	-0,40	$p > 0,05$

* correlation intensity: |0,0-0,2| - no correlation, |0,2-0,3| - weak correlation, |0,3-0,5| - moderate correlation, |0,5-0,7| - strong correlation, |0,7-1,0| - very strong correlation

** significance: $p < 0,01$ – strong, $p < 0,05$ – moderate, $p < 0,1$ – weak.

Source: Author's elaboration

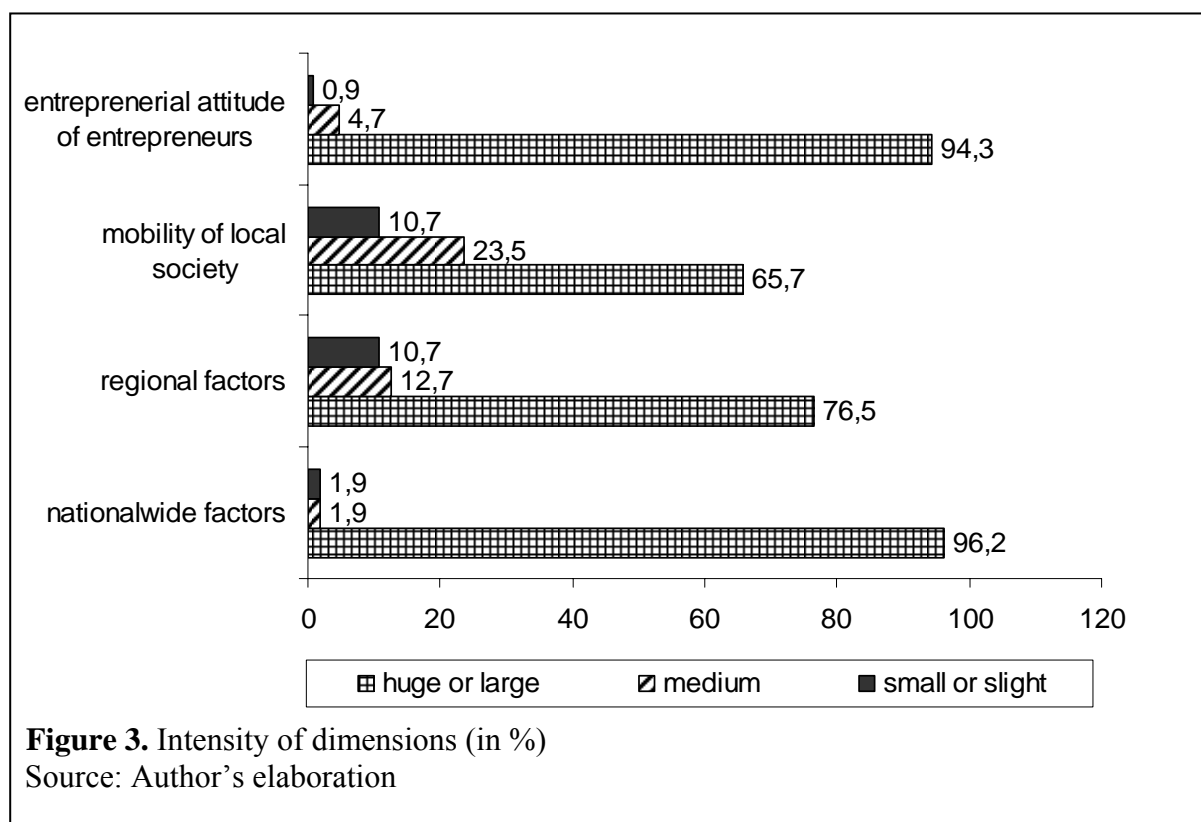
Test U Man-Whitney was used as a nonparametric test of differences between averages as the variables estimating regional business environment have constant character. Only two crucial dependences were found: V7 (mobility of a local community) at $p = 0,000197$ and V8 (knowledge and technology transfer) at $p=0,029886$, thus both at very strong significance. It shows that firms, which evaluate social mobility as well as those estimating knowledge and technology transfer in the region positively, are bound to develop (table 2). What is more, firms operating on the market more than 3,5 years, estimated the knowledge and technology transfer conditions in the given region much better (Chi-square Pearson 7,905135, $p=0,01921$) than those operating less than 3,5 years.

Table 2. Test U Mann-Whitney for regional factors and development of SME's

Variables	Positive rangs	Negative rangs	U	Z	p	Z+	p+
V1	1511,000	3049,000	969,0000	0,182563	0,855141	0,236396	0,813126
V2	3354,000	1206,000	855,0000	0,350585	0,725900	0,453963	0,649856
V3	143,5000	87,50000	38,50000	-0,783349	0,433423	-1,00000	0,317311
V4	3056,000	1504,000	909,0000	0,993712	0,320364	1,286733	0,198188
V5	3286,000	1274,000	730,0000	-1,04491	0,296064	-1,35303	0,176047
V6	2839,000	1721,000	1055,000	0,053700	0,957174	0,069535	0,944564
V7	4492,500	67,50000	52,50000	2,875000	0,004041	3,722764	0,000197
V8	4458,500	101,5000	91,50000	1,677077	0,093529	2,171604	0,029886
V9	4397,500	162,5000	147,5000	1,291667	0,196474	1,672546	0,094418

Source: Author's elaboration

In entrepreneurs' opinion nationwide factors (96,2%) and entrepreneurial attitude of entrepreneurs (94,3%) matter most on development of small and medium-sized enterprises (figure 3), but regional factors, in the opinion of the entrepreneur's, also play a very important role (76,5%). It can be explained why there were only two proven correlations. Furthermore, there is no strong differentiation between regions in Poland, and what is more important nationwide factors (mainly taxes and hard regulations) determine SME's success.



The factors based on the regional business environment can be divided into two groups, that is stimuli and barriers. In the entrepreneurs' perspective the main stimuli are:

- good telecommunication infrastructure in a given region,
- sale market absorbency and close proximity of suppliers in a given region,
- availability and quality of business consultants and advisers in a given region,
- availability of well qualified labour resources in a given region.

The answers given by local authorities' were very similar, indicating local policy in favour of entrepreneurship at the highest position among local stimuli of SME's development. More interestingly, entrepreneurs indicated the same factor as one of the most important barriers of development.

Conclusions

Regional business environment plays a crucial role in stimulating small business development. Present worldwide research focus mostly on the microeconomic point of view, passing over the managerial dimensions of the issue. Thus own empirical research tried to solve the problem from the managerial point of view. While evaluating the current state of the regional factors, the entrepreneurs' perception was implemented as a research technique. The research assumed nine regional factors, which can impact success of small and medium-sized enterprises. The factors were appointed on the basis of literature study by grouping various factors indicated by various authors. Factors, appointed in this way, treated the regional environment more comprehensively than presented in previous research.

Based on the research results it was proved that two regional factors have impact on small business development, these are availability of capital and financial support (moderate correlation) and entrepreneurship infrastructure (strong correlation). It was also partially proved that two other regional factors play important roles in the growth of small business, these are mobility of local community as well as knowledge and technology transfer (table 3).

It was the first such research conducted in southern Poland, however the results are convergent to research results conducted in other regions of Poland dedicated only to regional barriers and stimuli, which means that the period from introducing territorial self-government in Poland (from 1999 up to now) did not allow to shape a proper regional framework for entrepreneurship development and diversification in this field. Similar results was noticed also by Daszkiewicz (2000), Nogalski and his team (2004), Krajewski & Śliwa (2004) or Strużycki and his team (2004).

Table 3. Verifications of assumptions

Hypotheses	Results
Availability of capital and financial support in a given region impacts local small business development.	proved
Local authority's initiatives impact small business development in a given region.	not proved
Local entrepreneurship infrastructure impacts small business development in a given region.	proved
Local business to business services availability and quality impacts small business development in a region.	not proved
Availability of well qualified labour recourses in a given region impacts local small business development.	not proved
Local communication and telecommunication infrastructure impacts small business development in a given region.	not proved
Mobility of a local community impacts small business development in a given region.	partially proved
Local knowledge and technology transfer impacts small business development in a given region.	partially proved
Living standards of local community impacts small business development in a given region.	not proved

Source: Author's elaboration

Based on thoroughly verifiable empirical material the following conclusions can be drawn:

- Regional financial support is aimed mainly at forming or newly formed enterprises omitting mature enterprises and microfirms in all stages of their development. Thus, decision-makers should adjust the financial support to the needs of both grown-up and very small firms.
- Local policy in favour of entrepreneurship in southern Poland takes mainly only potential entrepreneurs into consideration. Policy-makers have to bear in mind mature enterprises. Thus, there is a need to educate local authorities in this field.
- Low evaluation of entrepreneurial knowledge and skills within the community is alarming according to entrepreneurs opinions. Thus, implementing 'entrepreneurship' as an obligatory academic subject at all majors of studies is recommended. Although Poland has already implemented 'introduction to entrepreneurship' in secondary school, but the syllabus is theoretically overloaded.
- Low percentage of enterprises benefit from entrepreneurship support centres, *notabene* the lowest ratio is noted for newly formed enterprises. It can signify that entrepreneurship support centres should focus on their promotion among both potential and mature entrepreneurs.

- Surprisingly the low assessment of entrepreneurship support centres should be alarming. These institutions should treat their activities as providing professional services instead of free aid. What is more they should adjust their offer to the needs of entrepreneurs.

The author hopes that the results will be used as directions for future research (theoretical usage) and as recommendations for local authorities in Poland (pragmatic usage). As far as directions of future research are concerned it is necessary to emphasize that in the long run it will be possible to determine the impact power of regional factors on small and medium-sized enterprise development in Poland. The comparatively short experience of territorial self-government in Poland (since January 1st, 1999) makes it impossible to stimulate enterprise efficiently and effectively on local and regional level. The detailed results were turned over to two local city councils in southern Poland, that is Kraków and Tarnów, which will use the results while programming future local policy in favour of small and medium-sized enterprises and entrepreneurship.

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